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2005 MARKET STREET, SUITE 2200  
PHILADELPHIA, PA 19103

EXAMINER

ROBERTSON, JEFFREY

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/749,442

Applicant(s)

JANEIRO, BENIGNO A.

Examiner

Jeffrey B. Robertson

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0504, 1004, 0605.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Clark et al. (U.S. Patent No. 4,978,696) is listed as an X reference on the international search report. However, this reference does not teach or suggest the presently claimed method. Mutoh et al. (EP 0 294 277 A2) does not teach or suggest the copolymer claimed in claim 23 because there is no teaching of the required dimethylsiloxane units in col. 8, lines 34-39. Haines et al. (U.S. Patent No. 5,395,956) is cited as an X reference. However, the process set forth in this reference is the formation of cyclic organohydrogensiloxanes from silane hydrolyzates and not the cationic polymerization siloxane reactants.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8, 10-20, 22 and 23 are rejected under 35 U.S.C. 102(a) as being anticipated by Tolentino et al. (EP 1 247 811 A1, cited on international search report).

For claims 1, 2, 11, 12, and 18, Tolentino teaches a continuous process whereby a cyclic organohydrogensiloxane is fed into a reactor containing an acidic catalyst that is an immobilized sulfonic acid modified exchange resin to result in a linear polymer product. Paragraphs [0016]-[0021]. For claims 4-6, here, Tolentino teaches that the temperature is preferably between 40-55° C. For claim 10, in paragraphs [0023]-[0024],

Tolentino teaches that the volatile siloxane reactants are recycled to the reactor. For claims 1, 22, and 23, regarding the presence of catalyst in the composition, the clarity and homogeneity of the composition, the examiner's position is that by virtue of the process set forth in Tolentino, there would be substantially no catalyst or by-products.

Regarding claim 3, Tolentino teaches that the number of repeat units is between 20-80, which includes polymer products having molecular weights within the range claimed by applicant.

For claim 7, in Examples 3-10, Tolentino teaches residence times between 15 to 60 minutes.

For claim 13, in paragraph [0008], Tolentino teaches the presence of a trimethylchlorosilane chain stopper. For claim 15, in paragraph [0009], Tolentino teaches that the polymer produced is trimethylsilyl terminated.

For claims 14 and 16, Tolentino teaches the presence of hexamethyldisiloxane in the feed. Paragraph [0013].

For claim 17, Tolentino teaches the use of a solvent in paragraph [0014].

For claim 19, Tolentino teaches that the siloxane reactants are passed through a heat exchanger prior to entering the reactor. Paragraph [0015].

For claim 20, in paragraph [0023], Tolentino teaches that the distillation is performed after removing the material from the reactor.

4. Claims 1-8, 10-14, 16-18, 20, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Litteral (U.S. Patent No. 3,694,405).

Litteral teaches a continuous process of producing high molecular weight organopolysiloxane through equilibration of a low molecular weight organopolysiloxane. Col. 1, lines 23-47. In col. 3, lines 20-68, Litteral teaches that the organopolysiloxane reactants are flowed through a packed bed of sulfonic acid cationic exchange resin. In col. 9, lines 10-21, Litteral teaches that the volatile reactants may be removed through distillation and recycled into the reaction process. Regarding claims 1 and 22, the examiner's position is that the clarity, homogeneity, and absence of catalyst in the reaction products would be a result of the reaction process applied.

For claim 2, Litteral teaches the formation of cyclic or linear organosiloxanes in col. 7, lines 17-60.

For claims 4-8, Litteral teaches that the process takes place at 60°C with a residence times of 8 and 26 minutes. Col. 4, lines 16-29. For claim 3, given the viscosities of the samples taken, it is the examiner's position that the polysiloxanes produced are within the molecular weight range claimed. Here, for claims 11-14 and 16, Litteral teaches a combination of cyclic and linear siloxane reactants.

For claim 17, Litteral teaches solvents in col. 8, lines 53-69.

For claim 20, in col. 8, line 74 through col. 9, line 9, Litteral teaches that the effluent from the reaction zone is passed to a distillation operation.

5. Claims 1-5, 7, 8, 11-14, 16, 18, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Vick (U.S. Patent No. 4,222,952).

For claims 1, 11-14, and 16, Vick teaches a continuous process for the production of organopolysiloxanes where the reactants are flowed through a stationary

catalyst bed. Col. 5, lines 3-6. Col. 6, lines 1-24. Here, for claim 21, Vick teaches the presence of multiple tubes. In col. 2, line 30 through col. 3, line 40, Vick teaches that cyclic and/or linear siloxanes are equilibrated with hexamethyldisiloxane end blocker compounds. Vick teaches that the lower molecular weight cyclic siloxanes are removed through feeding the product mixture into a stripper. Col. 5, lines 36-41. Regarding claims 1 and 22, the examiner's position is that the clarity, homogeneity, and absence of catalyst in the reaction products would be a result of the reaction process applied. For claims 4, 5, 7, and 8, in col. 9, lines 3-60, Vick teaches temperature ranges and residence times that anticipate these claims.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Litteral (U.S. Patent No. 3,694,405)

Litteral teaches the limitations of claim 1 as set forth above. For claim 9, col. 8, lines 12-14, Litteral teaches that pressures above and below atmospheric can be used if desired. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply pressures between 5 and 600 psi to change variables such as residence time. The pressure is a result effective variable. A result effective variable is determined according to the desired properties of the resulting composition and would be obvious to one of ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

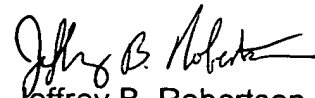
### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gilson et al. (U.S. Patent No. 5,319,120) is cited for general interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jeffrey B. Robertson  
Primary Examiner  
Art Unit 1712

JBR